Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
IP-Enabled Services	)	WC Docket No. 04-36

Reply Comments of
The Nebraska Rural Independent Companies

I. Introduction

The Nebraska Rural Independent Companies (the "Nebraska Companies")[1] hereby submit comments in the above captioned proceeding. The Nebraska Companies' initial comments filed in this proceeding suggested that in order to have a meaningful record "the Commission issue a Further Notice of Proposed Rulemaking ("FNPRM") after receiving comments and reply comments on the *IP NPRM* in order to ensure that all commenting parties are addressing a common, precise definition of IP-enabled services."[2] The Nebraska Companies assert that a more precise set of definitions will aid in the critical process of distinguishing between functions or services that are telecommunications and functions or services that are information. In order to aid in the Notice process previously suggested, the Nebraska Companies propose in these reply comments a starting point for definitional refinement and further consideration by the Federal Communications Commission ("Commission").

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[1] Companies submitting these collective comments include: Arlington Telephone Company, The Blair Telephone Company, Cambridge Telephone Company, Clarks Telecommunications Co., Consolidated Telco, Inc., Consolidated Telecom, Inc., Consolidated Telephone Company, Eastern Nebraska Telephone Company, Great Plains Communications, Inc., Hartington Telecommunications Co., Inc., Hershey Cooperative Telephone Company, Inc., K&M Telephone Company, Inc., Nebraska Central Telephone Company, Northeast Nebraska Telephone Co., Pierce Telephone Co., Rock County Telephone Company, Stanton Telephone Co., Inc. and Three River Telco.

[2] *See* Nebraska Rural Independent Companies Comments, WC Docket No. 04-36 at p. 2-3.

II. The Commission Should Further Distinguish IP-Enabled Services Between IP-Enabled Applications and IP Transmission Services

Our proposal is to supplement the IP-enabled services definition[3] with additional definitions that would distinguish IP applications from transmission services that utilize IP or other evolving network protocols. The Nebraska Companies believe that the provision of transmission functionality is clearly observable and distinguishable from the applications that typically are resident on host or server computers which may utilize this transmission functionality. For example, Internet Service Providers ("ISPs") provide transmission services to enable the end user to access an E-Mail server, web page server, file server, or a peer host computer that resides at a different location. Applications that reside on both the end user host computer(s) and the server computer utilize the network with the aid of standardized procedures called protocols. These protocols deliver network connectivity (transmission) in a manner that meets the technical and service quality requirements of that particular application. The network events invoked and managed by these protocols can be controlled and recorded, thus making them readily distinguishable from applications. Following are two additional terms that the Nebraska Companies believe should aid in the Commission's determination of its regulatory role:

IP-Enabled Applications are a class of applications that are typically resident on general purpose host or server computers and rely on IP Transmission Services to exchange information over distance.

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[3] *See IP-Enabled Services,* WC Docket No. 04-36, FCC 04-28 (*"IP NPRM"*) (rel. Mar. 10, 2004) at footnote 1.

IP Transmission Services are network transmission functions, provided for a fee, that utilize IP and related protocols that are classified to layers 1-5 of the OSI Reference Model and include the functions provided by the underlying physical medium.

IP Enabled Services as defined by the Commission would include both **IP Enabled Applications** and **IP Transmissions Services**; however, the two sub-categories as defined here would likely require different regulatory treatment. This will be explained in the following sections. Further, different regulatory treatment may be considered for the distinct protocol layers within the classification of IP Transmission Services. Applications such as voice or E-mail utilize transmission functionality but are distinct from that functionality. Pulver.com ("Pulver") for example, concurs that voice is an application that is distinct from transmission functions.[4] Under the definition proposed by the Nebraska Companies, voice would be considered an IP Enabled Application.[5]

The Nebraska Companies believe it is vitally important for the Commission to distinguish between computer applications that use transmission services and transmission services themselves in order to determine their statutory obligations in the regulation of the converged IP environment as defined by federal law.[6] Without necessary and uniform economic regulation to ensure open networks, market power will be exercised in the IP environment. Furthermore, social goals such as universal service

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[4] *See* pulver.com Comments, WC Docket No. 04-36, at p. 13.

[5] Id. at p. 14 Pulver introduces the concept of Application Service Providers ("ASP") which Pulver distinguishes from telecom carriers. The Nebraska Companies' concept of IP Enabled Applications would seem to be related to the purpose of an ASP.

[6] *See* 47 U.S.C §§ 201-202.

cannot be fulfilled in a converged system without the proper regulatory classification. The imposition of carefully crafted regulation will only serve to enhance commerce over the Internet, not to impede it, as is regularly argued by many.

III. The "Layered" Approach to Regulation Should Be Adopted for IP-Enabled Services, As Well As for Other Services Under the Commission's Regulatory Authority.

A. The "Layered" Approach Allows for Similar Functions to be Regulated in a Similar Manner.

The Nebraska Companies believe that the future regulatory framework for communications should be based on the definitions of IP-Enabled Applications and IP Transmissions Services proposed above. The migration of applications from traditional circuit-switched networks to IP networks poses a challenge to the existing regulatory framework. The new environment will be less medium-driven and more function-driven. By classifying the new systems as either transmission or applications, the Commission would be able to maintain the telecommunication/information distinction while accommodating the evolution in technology.

The Nebraska Companies also realize that full convergence will take some time. Therefore, we recommend that the Commission use the "layered" approach to regulation in conjunction with the definitions from above to provide a general framework for regulatory decisions associated with controlling the exercise of market power and the framework for universal service. The Commission describes the "layered" approach as "Facilities Layer vs. Protocol Layer vs. Application Layer." The Nebraska Companies aver that the "layered" approach is an appropriate, immediate method for regulation of IP-enabled services, as well as ultimately for all other services under the Commission's

regulatory authority.[7] Implicit in the "layered" approach is the notion that similar functions should be regulated in a similar manner and that some functions are more capital intensive than others.

Traditionally, communication services regulation has been developed by viewing each service as being inextricably linked with the network technology providing it.[8] This linking of the services provided with its underlying medium resulted in a "silo" model of regulation, in which each service and its associated network and technology was regulated separately from other services. The advent of IP has significantly eroded the distinct association between services and the networks that provide them. IP now allows multiple services to be provided over a single network, and any given service to be provided over multiple media or networks.[9]

The use of the "layered" approach would allow for regulation of similar functions in the same manner, regardless of the underlying facilities and protocols used to provide the service. This is especially important in an IP environment, since IP technology can be used to provide comparable services over a variety of facilities. By focusing on a functional approach, where the functions provided to users are used in determining the level of regulation to be applied (as opposed to the technology that provides said functions), the Commission can ensure open access to the transmission functions while avoiding overregulation of the highly competitive IP-enabled applications market.

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[7] *See IP NPRM* at para. 37.

[8] *See* letter from Gil M. Strobel, Lawler, Metzger & Milkman, LLC to Marlene H. Dortch, Secretary FCC, Re: Written Ex Parte Presentation, IP-Enabled services, WC Docket No. 04-36, et al., March 29, 2004, Attachment at p. 2.

[9] Ibid.

State commissions as well as NARUC[10] advocate that similar functions be regulated in a similar manner. For example, the Arizona Corporation Commission believes that the "layered" approach is ultimately important for determining the regulatory classifications of the services provided and that use of the "layered" approach would allow regulation to be more focused on the components of the service where it is most appropriate or necessary.[11]

Additionally, the Vermont Public Service Board ("Vermont PSB") states that regulation should not depend on the technology or equipment used, but instead should depend on the service or function provided to the customer. Defining layers will help solve some of the problems of developing a functional approach to regulation. The Vermont PSB notes that a layered approach is compatible with functional regulation, and it should be extended to other functionally similar services.[12]

The Nebraska Companies believe that the layered approach's differentiation between "transmission layers" and "application layers" provides the most useful means to distinguish regulation of the transmission facilities without unnecessarily overseeing the IP-enabled applications which operate over them.

B. The Commission Should Use the "Layered" Approach to Determine Whether a Service is a Telecommunications Service or an Information Service.

The OSI model was developed by the International Organization for Standardization (ISO) to help vendors create interoperable network implementations, in

[10] *See* Comments of The National Association of Regulatory Commissioners, WC Docket No. 04-36. Section II.B.

[11] *See* Arizona Corporation Commission Comments, WC Docket No. 04-36 pg.8.

[12] *See* Vermont Public Service Board Comments, WC Docket No. 04-36 at p. 11.

order to help move information between computers of diverse design. As such, it groups similar network functions into layers, the functions of which can be universally understood based on the model. The Nebraska Companies believe that layers 1-5 of the OSI reference model respectively (the physical, data link, network, transport, and session layers) are necessarily associated, by their nature, with the provision of transmission and are telecommunications and should be subject to appropriate regulatory oversight. This is because the definition of telecommunications includes ". . . transmission, between or among points specified by the user, of information. . . ."[13] and layers 1-5 are used to facilitate the transmission of information. Layers 6-7 (the presentation and application layers, respectively, of the OSI reference model) are associated with applications, and should be regulated only to the extent necessary to ensure public safety and national security.

Layer 5 (session layer) of the OSI model is properly included in the "transmission" layers because the functions provided by layer 5, including establishing dynamic connections and managing the quality of service ("QoS") along that route, is essential to the transmission. Without the functions provided by the session layer, it would be impossible to guarantee the necessary network resources to carry out the type of specialized services proposed by IP-enabled service providers.

While the "layered" approach can be used to determine whether a service is a telecommunications or information service, the Nebraska Companies believe that the "Change in Form or Content Test"[14] is being inappropriately applied in distinguishing

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[13] *See* 47 U.S.C. § 153(43).

[14] *See* 47 U.S.C. § 153(48).

telecommunications from information services whenever there is an association with IP protocol. The statutory intent of the change in form and content test was to discriminate between functions and services that are clearly data processing in their own right and functions that are integral to the transmission of information over distance. Clearly, all telecommunications systems entail some change in form. For example, even the original analog telecommunications call pattern involved a change in form. Initially, the call began as an acoustic wave which was then converted to an electrical analog wave for transmission. After traversing the PSTN and arriving at its destination, the call was converted back to an acoustic wave.

The "Change in Form or Content Test" should be applied carefully to ensure that it is consistent with statutory intent. The test must, at minimum, be conducted from the perspective of the form or content sent and received by the end users. For example, a call that originates as voice and terminates as voice is not a net change in form or content.[15]

Vonage argues that it receives data in IP format and converts it to Time Division Multiplexing ("TDM") for delivery on the PSTN.[16] This same end-point net change in protocol test, as illustrated in the *AT&T IP Telephony Order*, suggests that Vonage is incorrect in arguing that its Voice over Internet Protocol ("VoIP") service is an information service because it enters the network in an IP format and terminates in a different format. The *AT&T IP Telephony Order* said that AT&T provides telecommunications services because it provides "transmission between or among points

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[15] *See Petition for Declaratory Ruling that AT&T's Phone-to-Phone IP Telephony Services are Exempt from Access Charges,* WC Docket No. 02-361, FCC 04-97 (*"AT&T IP Telephony Order"*) (rel. Apr. 21, 2004) at paras. 12-13.

[16] *See* Vonage Comments, FCC Docket No. 04-36, at p. 25.

specified by the user, of information of the user's choosing, without change in the form or content of the information as sent or received."[17]

By looking at a Vonage call, for example, it is clear there is no net change in form or content. A Vonage customer who picks up a phone makes his/her caller input in the form of analog voice communication. When the called party answers his/her phone on the other end, he/she receives the analog voice communication just as initiated by the caller. The Vonage caller chooses the transmission of a voice call, not a packet stream or a TDM sequence. IP and TDM merely operate in the background to transport the identical analog voice streams between two points. Thus, the correct application of the net change in form or content test, from the perspective of the end user, would indicate that the service provided by Vonage does not change the form or content of the information transmitted. Therefore, VoIP services such as those provided by Vonage are telecommunications services, not information services.

C. The Layered Model of Regulation has been Misinterpreted or Misapplied by Some Parties to this Proceeding

SBC erred in its analysis of the layered model. Its claim that there is no consensus about how to define the layers of Internet-related communications for either regulatory or engineering purposes is unfounded.[18] The OSI layered framework was created in 1984 by the ISO. ISO is a global federation of national standards organizations representing 148 countries around the world which began functioning in 1948. International standards introduced by ISO are created through consensus agreements between national delegations representing all the economic stakeholders' concerns-

[17] *See AT&T IP Telephony Order*, at paras. 12-13.

[18] *See* SBC Comments, FCC Docket No. 04-36, at p. 61.

suppliers, users, government regulators and other interest groups such as consumers.[19] There is no evidence to date that indicates that the functional layers of the OSI model fluctuate over time as SBC asserts. In fact, newly developed protocols must fit within the OSI framework so that modules can inter-operate across layers. Consequently, SBC and its engineers are in the great minority with their views.

MCI also erred in its conclusion that layered model framework implies a bill and keep system of inter-carrier compensation.[20] The layered model provides the Commission with a framework to use in the determination of the economic regulation they wish to assert. Bill and keep is a theory of who should pay and the layered model provides no insight on this question. Nowhere else in the comments analyzed by the Nebraska Companies is the layered model purported to offer any rationalization for bill and keep or indeed any particular method of inter-carrier compensation.

D. Economic Regulation Should be Targeted to Layers in Which Market Power Exists or May Exist in the Future IP World.

The Nebraska Companies believe the Commission should target regulation to layers within the transmission layers 1-5 where market power exists. The lower layers and the facilities used for communication, which are not included within the OSI model but rather are located beneath the physical layer, should be subject to more regulation than the upper layers of the model. This is because the lower layers of the OSI model, and especially the facilities used for communication underlying the model, are much more capital intensive than the provision of functions located at higher layers. As such, the need for more capital to provide the functions implies greater economic power for

[19] *See* www.iso.org/iso/en/aboutiso/introduction/index.html#two.

[20] *See* MCI Comments, FCC Docket No. 04-36, at p. 47.

current providers in lower layers and greater barriers to entry for other potential providers. The Nebraska Companies further assert that layers 3-5 (including the Internet backbone) should have some form of regulation in order to ensure that there is efficient and unimpeded interoperability across all protocol layers.

1. Physical Layer Market Power

The Nebraska Companies are not alone in their assessment. For example, MCI asserts that market power exists at the physical layer, and its request that the Commission continue regulation at this level is well founded.[21] In order to ensure access and interface between the physical layer and above layers, MCI notes that regulation is necessary to prevent any leveraging of that market power to deny access. MCI observes that the limited number of channels and high barriers to entry that exist at the physical layer necessitate Commission action.

The regulation of the physical layer requires regulation of both cable modem and DSL service. Providers of these services control access to the end-user and can exert market power. Providers of both services could deny ISPs access to end users. Thus, while cable modem and DSL offer end users alternative means to obtain broadband connections to the Internet, the availability of such alternatives should not be confused with a lack of market power with respect to ISPs.

USTA's assertion that ILECs have no market power in the broadband transmission market and are therefore non-dominant is also flawed.[22] According to Vonage, the logical and physical networks are dominated by a small group providing last

[21] Id. at p. 15-16.

[22] *See* USTA Comments, FCC Docket No. 04-36, at p. 26.

mile connectivity, and the Commission should prohibit such firms from using their control over bottleneck facilities to engage in unfair practices.[23] Vonage points to a recent analyst report saying that broadband providers could de-prioritize Vonage's traffic[24] and to a recent case where "a Washington State ISP cancelled a Vonage customer's service because the ISP claimed it did not have a contract with Vonage."[25] These facts clearly show that last-mile providers indeed have the ability to restrict access to IP-enabled services when they so desire.

Further, USTA argues that the Commission should forbear from regulation of IP-enabled services that qualify as telecommunications services because the IP market is highly competitive and therefore need not be regulated.[26] The Vermont PSB provides a more objective view that reflects the need for controls that prevent the exploitation of market power with interconnection.

The Vermont PSB argues that "at the most basic level, any IP-enabled service provider with physical facilities should have a duty to physically interconnect, on request, with any other responsible communications provider."[27] This interconnection requirement can be witnessed through the years. Vermont required telephone and telegraph interconnection since 1880. The Vermont PSB asserts that this original interconnection requirement is similar to Section 201. Similarly, Section 251 of the 1996 Act requires similar interconnection between LECs and CLECs. The Vermont PSB

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[23] *See* Vonage Comments, FCC Docket No. 04-36, at p. 9.

[24] Id. at p. 10.

[25] Id. at p. 11.

[26] *See* USTA Comments, FCC Docket No. 04-36, at p. 22-23.

[27] *See* Vermont Public Service Board Comments, FCC Docket No. 04-36, at p. 14.

argues that this pattern clearly shows a deep underlying logic to government regulation of networked communications and the Commission should be cautious before abandoning it.[28]

Given the above statements, the Nebraska Companies believe that Commission forbearance from regulation of DSL and cable modem broadband service would be inappropriate and in fact damaging to the growth of IP-enabled services. The services do not meet the statutory test for forbearance. Regulation of DSL and cable modem service is necessary to ensure just and reasonable charges and practices. Economic regulation of layers in which market power exists is necessary to protect consumers and to continue proliferation of IP-enabled services. By exercising its right to regulate on a targeted basis, the Commission will ensure that consumers continue to have a choice of ISPs in a market. This choice will in turn help ensure reasonable rates.

2. IP Backbone Provider Market Power

The existence of multiple ISPs in any market also depends upon ISPs gaining access to IP backbone providers at just and reasonable rates. This will lead to competition among ISPs and to the continued development of IP-enabled services and applications. However, if the Commission fails to appropriately regulate the layers, the concentration of market power in a few ISPs associated with a few backbone providers would result in a near-monopoly situation, in which there is likely to be less competition, and thus less innovation of new services.

MCI erred in its application of the market power analysis in the layered approach when it failed to recognize the market power held by IP backbone providers, including MCI. As Verizon observes, market power exists at the level of the Internet backbone,

[28] Id. at p. 15.

where well-entrenched companies, including MCI, manage a vast network of transmission facilities facing little or no competition.[29]

IV. Universal Service and Intercarrier Compensation Mechanisms Should be Modified to Achieve Public Policy Goals in an IP-Enabled Services Environment.

Consistent with Section 254 of the 1996 Act, ISPs and other retail providers of IP Transmission Services such as VoIP service providers should contribute to universal service as telecommunications service providers. Providers of DSL and cable modem services are telecommunications service providers and should, to the extent they are providing retail services, contribute to universal service. Further, it is extremely important to recognize that when or if communications applications have largely migrated to a broadband IP network, high cost support for rural and insular areas must be re-targeted to IP Transmission Services that represent the underlying network infrastructure.

ISPs clearly provide transmission functionality for a fee and fit the Nebraska Companies' proposed definition of an IP Transmission Service Provider. ISPs also fit the statutory definition of a telecommunications service provider because any change in form that may be produced with their service is implicit to the transmission function and has no statutory relevance. ISPs own routers and acquire broadband access, IP backbone service, and uplink access from affiliated companies or at wholesale from another entity. With these components ISPs provide broadband transmission capability to their retail customers. ISPs may bundle e-mail and web hosting services with their transmission capability, but these add-on functions are severable from ISPs' transmission services.

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[29] *See* Verizon Comments, FCC Docket No. 04-36, at p. 20.

The Nebraska Companies assert that IP-enabled service providers are telecommunications service providers under section 254 of the Act, as stated above. However, even if the Commission deems IP-enabled service providers to be information services, it may still regulate the services under Title I ancillary jurisdiction. The Act provides that the Commission may "perform any and all acts, make such rules and regulations, and issue such orders not inconsistent with [the] Act, as may be necessary in the execution of its functions."[30] Also under Title I of the Act, the Commission has a duty to "make available, so far as possible. . . a rapid, efficient, nationwide, and world-wide wire and radio communication service with adequate facilities at reasonable charges."[31] As indicated by SBC, the Commission has found information services to be communication by wire or radio and thus subject to Commission jurisdiction.[32] This ancillary jurisdiction may be used by the Commission, if it fails to find IP-enabled services are telecommunications services, to require USF contributions in order to continue to make available services at reasonable charges.

VoIP providers such as Vonage whose product fits the Nebraska Companies' proposed definition of IP Transmission Service should also contribute to universal service. Vonage's service represents a clear distinction from the "directory oriented services" of Pulver.

Vonage asserts in its comments that VoIP services are properly classified as information services[33] and therefore are not subject to assessment. Further, Vonage states

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[30] *See* 47 U.S.C. § 154(i).

[31] Id. § 151.

[32] *See* SBC Comments, FCC Docket No. 04-36, at p. 53.

[33] *See* Vonage Comments, WC Docket No. 04-36, at p. 23.

that non-facilities based VoIP providers already contribute to universal service when they purchase services that provide the functionality of the underlying network.[34] As indicated above, the Nebraska Companies dispute the assertion that Vonage's VoIP product is an information service. We also contend that Vonage in fundamentally a toll reseller and most likely purchases underlying network services at the wholesale level. As such, Vonage is not making a direct or indirect contribution to universal service. Further, even if the underlying services that Vonage is utilizing are surcharged, they would represent a much smaller proportion to the total Vonage interstate revenues than would be received from carriers that are contributing on a direct basis.

The Nebraska Companies further assert that CTIA is incorrect in its assertion that universal service support may not be necessary in high cost areas.[35] In attempting to bolster its assertion, CTIA suggests that televisions have near ubiquitous penetration without subsidizations, while telephone service has a lesser penetration rate even with subsidies. CTIA fails to recognize the variance in the cost of the items it compares. Televisions are available for as little as $100, and are serviceable for ten years or more. Broadcast television is available for no cost to the user because it is being subsidized by advertisement and commercial interests outside of the industry. Network television service is essentially available for less than $1 per month. A comparison of the penetration rates for telephone and television, given the difference in their cost, is meaningless.

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[34] Id. at p. 47.

[35] *See* CTIA-The Wireless Association Comments, WC Docket No. 04-36, at p. 13.

In addition to the necessity of universal service support, it is essential that such support be ultimately targeted to the facilities that allow the provision of universal service instead of the service provider. The payment of universal service support to the facilities provider, instead of the service provider, will be necessary in an environment in which customers utilize VoIP instead of traditional telephony. Unlike the traditional telephony environment, VoIP does not maintain the link between the service provider and the facilities provider. It is the underlying facilities, especially the "last mile" facilities that constitute the majority of the cost for the provision of universal service. Therefore, it will be necessary to restructure the existing universal service support mechanism to provide support to entities that provide facilities and physical and link layer functions in order to appropriately target support to the elements that constitute the "high cost" of providing universal service.

In addressing intercarrier compensation, the Commission correctly concludes that any service provider that sends traffic to the PSTN should be subject to similar compensation obligations, irrespective of whether the traffic originates on the PSTN, an IP network, or on a cable network.[36] There is general agreement relative to this conclusion[37] with the exception of parties that want to utilize local networks without fair and lawful compensation.[38] The Nebraska Companies reiterate our position that when a retail service provider utilizes the network functionality of another provider, the retail provider has a compensation obligation. This compensation obligation framework is

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[36] *See IP NPRM* at para. 61.

[37] *See* WC Docket No. 04-36, SBC Comments at p. 68; Qwest Comments at p. 41.

[38] *See* ATT Comments WC Docket No. 04-36 pg. 26.

termed Retail Service Provider Pays ("RSPP") and can be extended beyond the PSTN for adoption as a general requirement for interconnection obligations among all IP Transmission Service providers.[39]

V. The Commission Should Not Assert Exclusive Federal Jurisdiction Over the Regulation of IP-Enabled Services.

The Nebraska Companies believe that the states should play a key role in regulation of IP Transmission Services. In Section 706 of the Act, Congress stated that "the Commission and each state commission. . . . shall encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans. . . ."[40] (emphasis added) It is in this role that the state commissions can be effective in regulation of IP transmission services. Telecommunications consumers first and foremost look close to home for resolution of complaints against telecommunications providers.[41] The individual state commissions are best positioned to deal with issues regarding local service, interconnection agreements (and its dispute resolution), E-911, universal service and CALEA among others.

The Commission should find that IP-enabled services can be *either* interstate or intrastate in nature. SBC, Qwest, Vonage and others who argue that it is not possible to discriminate between jurisdictions in an IP environment are simply incorrect. The California Public Utilities Commission ("California") in its comments identifies vendors that trace IP addresses and associate those addresses with the location of the source and destination of any transaction and then send the automated number identification to a

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[39] *See* Nebraska Rural Independent Companies Comments, WC Docket No. 04-36, at p. 11-13.

[40] *See* 47 U.S.C. §706.

[41] *See* Minnesota Public Utilities Commission Comments, FCC Docket No. 04-36, at p. 11.

recording location.[42] Further, California correctly observes that when VoIP is not tied to a particular geographic location, that situation does not defeat the ability to make jurisdictional distinctions through the use of proxies or safe harbors for the purpose of universal service.[43] This approach has been used for assessment of wireless carriers where mobility is a fundamental aspect of the service. With today's 800 services provided over the PSTN network, telephone numbers can be dynamically associated with different physical locations based on time of day or other factors. The functionality of a Session Initiation Protocol feature server is not unlike the TCAP 800 data base functions of Signaling System 7. The purpose of the TCAP data bases are designed to associate one identification format to another identification format which is the same function as the feature server.

Also, Cox Communications has expressed concern about the Commission preempting the states' current dispute resolution functions. It cites an example of a complaint proceeding concerning a negotiated interconnection agreement heard at the Commission that took two and a half years and ended only because the parties settled.[44] Cox believes that the Commission simply did not have the resources necessary to undertake such a complaint proceeding.[45] As such, it is vital that the states maintain authority over the interconnection of networks.

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[42] *See* People of the State of California and the California Public Utilities Commission Comments, WC Docket No. 04-36, at p. 36.

[43] Id. at p. 38.

[44] *See* Cox Communications Comments, FCC Docket No. 04-36, at p. 14.

[45] Id. at p. 15.

As well as the key dispute resolution function, the states also need the ability to apply rate regulation to IP service providers with bottleneck facilities. The Vermont PSB points out that if IP-enabled services are preemptively federal, it may not be able to assure its retail customers and other carriers that the rates charged by IP-enabled service providers are just and reasonable.[46] The Vermont PSB also believes that there is nothing stopping an IP-enabled service provider from acquiring bottleneck facilities and exercising market power.[47] The Nebraska Companies agree with the Vermont PSB and urge the Commission to maintain separate and distinct federal and state regulatory system to best protect consumers in an IP environment.

VI. Conclusion

It is the belief of the Nebraska Companies that in order to best understand and regulate the new environment regarding IP-enabled services, it is first necessary to define IP-enabled services as being comprised of an IP-Transmission Service component and an IP-Enabled Application component. The Commission should exercise its regulatory authority in the IP-transmission service area, which corresponds to the statutory definition of telecommunications services. The IP-transmission service area is comprised of layers 1-5 of the OSI Reference Model's layered framework. This is because the functions performed in these layers are transmission functions needed to ensure a path for the IP-enabled applications that ride on these networks. Regulation is necessary at these layers because there is the potential for market power to be exercised by either the last-mile broadband provider or the IP-backbone provider.

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[46] *See* Vermont Public Service Board Comments, FCC Docket No. 04-36, at p. 35.

[47] Id. at p. 36.

Additionally, the Nebraska Companies believe that ISPs and other retail providers of IP transmission services such as VoIP providers should contribute to universal service as telecommunications providers, since they benefit from the underlying network infrastructure. As applications migrate to a broadband IP network, high cost support for rural and insular areas must be retargeted from a services-based model to an infrastructure-based model in order to continue the proliferation and accessibility of broadband to non-urban areas.

The Nebraska Companies also reiterate the position that when a retail service provider utilizes the network functionality of another provider, the retail provider has a compensation obligation for that usage. The Retail Service Provider Pays ("RSPP") methodology conforms with the Commission's conclusion that any service provider that sends traffic to the PSTN should be subject to similar compensation obligations, irrespective of whether the traffic originates on the PSTN, an IP network, or a cable network.[48]

Finally, the Nebraska Companies urge the Commission to not assert exclusive federal jurisdiction over the regulation of IP-enabled services. Section 706 of the Act clearly illustrates Congress' intent to maintain state involvement in the deployment of advance telecommunications capabilities.[49] The state commissions have the experience and resources to best understand local issues. Additionally, technological advancements will make the jurisdictionalization of IP traffic possible. And even without a particular geographic location for VoIP service, nothing prevents the application of proxies or safe

[48] *See IP NPRM* at para. 61.

[49] *See* 47 U.S.C. § 706.

harbors for the purposes of universal service. It is also noted that the states already perform this key dispute resolution function and should continue to do so for IP-enabled services.

Dated: July 14, 2004.

Respectfully submitted,

The Rural Independent Companies

Arlington Telephone Company,
The Blair Telephone Company,
Cambridge Telephone Company,
Clarks Telecommunications Co.,
Consolidated Telephone Company,
Consolidated Telco Inc.,
Consolidated Telcom, Inc.
Eastern Nebraska Telephone Company,
Great Plains Communications, Inc.,
Hartington Telecommunications Co., Inc,
Hershey Cooperative Telephone Company, Inc.,
K&M Telephone Company, Inc.,
Nebraska Central Telephone Company,
Northeast Nebraska Telephone Company,
Pierce Telephone Company, Incorporated,
Rock County Telephone Company,
Stanton Telephone Co., Inc., and
Three River Telco

By: _____

Paul M. Schudel, No. 13723
James A. Overcash, No. 18627
WOODS & AITKEN LLP
301 South 13th Street, Suite 500
Lincoln, Nebraska 68508
(402) 437-8500
(402) 437-8558 Facsimile